

Evolution on One Foot

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Evolution on One Foot*

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“By the end of this short book, if I have done my job well, the reader will understand why evolutionary theory is essential for accomplishing the altruistic goal of making the world a better place”. With these intrepid words, David Sloan Wilson opens his new offering, published in a series of little books on big ideas by Yale University Press and titled *Does Altruism Exist?* The answer, you may not be surprised to learn, is that altruism does exist, whether or not all the interlocutors in this long debate admit it. In order to understand why, we need to readjust our gaze on evolution. Then we’ll be able to change the world.

Wilson is SUNY Distinguished Professor of Biology and Anthropology at the University of Binghamton, and one of the leading evolutionary theorists of his generation. He has written scholarly and popular books on the evolution of altruism, religion as a multi-level adaptation, and, in *The Neighborhood Project: Using Evolution to Improve My City, One Block at a Time*, on applying evolutionary principles to better the quality of life in Binghamton, New York.¹ His new little book, funded by the Templeton foundation, is a concise summary of the various aspects of his life’s preoccupation, and a good place to take stock.

* This essay is an expansion of the article “The Altruism Game” that appeared in *The Chronicle of Higher Education*, February 13, 2015, pp. 6–9, and includes material from it.

¹ Other notable titles include: *Unto Others: The Evolution and Psychology of Unselfish Behavior*, with Elliot Sober (Cambridge, MA: Harvard University Press, 1998), *Darwin’s Cathedral: Evolution, Religion and the Nature of Society* (Chicago: University of Chicago Press, 2002), and *Evolution for Every One: How Darwin’s Theory Can Change the Way We Think About Our Lives* (New York: Delacorte, 2007).

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I

Let's begin with the bees, who when their colony splits by swarming, send out scouts to search out a new nest cavity. Miraculously, when the individual scouts return, each having visited a cavity or two at most, and therefore lacking the requisite big picture to "argue" their case, a collective decision about the best option is nonetheless made based on their dance-like interactions. This collective decision-making process is uncannily similar in pattern to the one observed between individual neurons in the brains of rhesus monkeys that are trying to determine the principle direction of movement of haphazard dots on a screen. The "group mind" of the bees seems to work in almost identical ways to the single, multi-million-neuron mind of the monkey.

Onward to Africa: Before sunset on the Serengeti, female Buffalos determine where the herd will graze next by pointing their heads distinctively in a certain direction; somehow each nod is integrated and the direction with the most "votes" chosen. Pelicans form half-circles, paddling in perfect unison to entrap fish off looming coasts. Tadpoles communicate via surface waves to make collective decisions about which food sources to tap. Even bacteria use quorum sensing to coordinate gene expression according to the density of their population. How does such seemingly incredible group functionality come about? According to Wilson the answer resides in just a couple evolutionary principles.

The Bible, Rabbi Hillel tells us, can be stated on one foot: "Do unto others as you would have them do unto you". Likewise evolution, Wilson claims, commands a condensation: "Selfishness beats altruism within groups. Altruistic groups beat selfish groups. All else is commentary".² This is how it works: since natural selection is based on relative fitness, rather than absolute fitness, all that matters for an organism is that it be in better shape than its neighbors; jumping highest or eating the most in an absolute sense is meaningless. Except that "putting out" for the group, in the form of costly cooperation or outright sacrifice, necessarily reduces the relative fitness of the individual. So there is a conflict: Should one look out for oneself or the tribe? The conflict is complicated by the fact that cooperative groups do better than less altruistic ones. Group functionality will therefore almost invariably evolve by natural selection working between groups rather than

² This formulation was first offered by D.S Wilson and E.O. Wilson in their article "Rethinking the Theoretical Foundation of Sociobiology", *Quarterly Review of Biology*, 82, 2007, pp. 327–348.

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within them. In such a world, the organism-like quality of groups of bees and buffalos and pelicans and tadpoles and bacteria have the successful suppression of individual urges to thank.

Figuring out the mechanisms that give birth to group cohesiveness by blocking individual selfishness is therefore an important evolutionary agenda: it helps to explain the origin of life, how single cells came together to form multicellular creatures, and why, in social insects like bees and ants and wasps and termites – but also mammals like the blind African mole rat – entire castes forego reproduction, devoting their lives instead to the greater good. There is a tradition, going back nearly a century, of biologists searching out the secrets of the “superorganism”, and D.S. Wilson has been one of its prominent modern practitioners.

His has been an uphill battle.³ Ever since the 1960s, biologists have ridiculed so called “group selection” and many continue to revile it today.⁴ Efforts to explain altruism without invoking group selection go by a number of names: kin selection, selfish gene theory, and evolutionary game theory, and each has spawned a cottage industry.⁵ In *Does Altruism Exist?* Wilson provides the clearest and most concise explanation I have seen yet of how these approaches all employ group selection logic without realizing or admitting it.

Here’s why:

They all assume that social interactions take place in groups that are small compared to the total population. The traits that became labeled only apparently altruistic do not have the highest relative fitness within groups and evolve only by virtue of the differential contribution of the groups to the total population. These theories aren’t wrong when it comes to explaining when a given trait evolves in the total population, but they are wrong in denying the role of between-group selection in the evolution of a given trait. The transmutation of altruism into selfishness is therefore based on a difference in how these terms are defined and not a difference in the causal process invoked to explain the evolution of traits.⁶

³ On the history of the idea of group selection, see Mark Borrello, *Evolutionary Restraints: The Contentious History of Group Selection* (Chicago: University of Chicago Press, 2010).

⁴ Abbot, P., “Inclusive fitness theory and eusociality”, *Nature*, 471, E1–4, 2011.

⁵ For a philosophical account, see Samir Okasha, *Evolution and the Levels of Selection* (Oxford: Oxford University Press, 2006).

⁶ D.S. Wilson, *Does Altruism Exist? Culture, Genes, and the Welfare of Others* (New Haven: Yale University Press, 2015), p. 34.

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Invoking the philosophical concept of equivalence, Wilson explains how each of the approaches helps to throw light on the same causal process from a different, and valid perspective. In two-person game theory models, noncooperative strategies typically beat out cooperative ones within a mixed pair, but pairs of cooperators have a higher combined fitness than either mixed or noncooperative pairs. This is precisely the standard within- versus between-group selection dynamic invoked in multi-level modeling, but what evolutionary game theory does is calculate the average payoffs of the strategies across pairs. When the average cooperator gets a higher score than the average egoist, this is called “individual-level selection”, and the winning strategy is termed “selfish”. If evolutionary game theory averages the fitness of individuals across groups (and what’s true for two-person games is also true for N-person games), selfish gene theory averages fitness across individuals. When a gene Y is more fit on average than its allele y, it is said to evolve by “gene-level selection”, but this is just what multi-level theorists would call “between-organism selection”. Neither “individual selection” nor “gene selection” is any kind of argument, therefore, against group selection, at least no more, say, than Arabic is an argument against Hebrew.

When it comes to kin selection, the calculus is somewhat different. Here, the effect of an organism’s behavior on itself and on others is weighted by a coefficient of relatedness. The trait evolves when the organism’s inclusive fitness is positive, but what are scored ultimately are the traits that evolve in the total population, just like in the other methods. Kin selection theory explains sterility, for example, by claiming that the workers are boosting their own fitness by assisting reproduction in the queen, whereas multi-level selection theorists understand sterility as providing a collective benefit to the colony. The explanations may sound different, but unlike competing paradigms in the Kuhnian sense, the alternative renderings deserve to coexist since they needn’t be incommensurable. It’s just like arranging expenditures by date versus arranging them by dollars, describing a mountain peak from two different angles, or penning the same poem in two separate languages. Wilson tells us little about whether while equivalent, certain explanations may in practice be more useful: after all, it is surely true that the prism of kin selection is sometimes more productive, not to say just plain easier, than that of group selection, particularly in natural cases where the boundary of the group is less than well defined. Indeed, there may be good reasons to use one explanation at the expense of the other in particular instances, and it would be useful to figure out when

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and why. Still, Wilson makes a good argument that evolutionists need to become polyglots. When that happens, he claims, the controversy over group selection will go the way of the debate over Copernicanism, Darwinism, and continental drift.⁷

II

And so, yes, when defined in terms of relative fitness within and between groups, wherever there is group level functional organization, such as in pelicans or amoeba, altruism exists and is real. Things get more complicated when we graduate to man. That's because biological altruism is defined by the result of an action, while psychological, or human altruism, is all about intent. An amoeba, by a certain action, confers a fitness benefit on another while incurring a fitness cost and is considered an altruist. But a person can act altruistically for many a reason: moral rectitude, gratification from another's pleasure, to put someone in one's debt, to better one's reputation, to receive an ultimate reward. With the many-to-one relationship between intent and action governing the human condition, how is one to make out a true altruist from a masquerading narcissist?

Wilson doesn't know but he doesn't much care either: the important point is that the same dynamic governing the birth of altruism in nature applies to man: due to the demands of child care and hunting and gathering, the need to defend against predators and fight against competing human groups, between-group selection superseded within-group selection, rendering our species evolution's latest major transition. Developing both the biological and cultural mechanisms that successfully suppressed disruptive within-group competition and fostered empathy and trust, our ancestors became the sole primate, in Wilson's words, to "cross the threshold from groups *of* organisms to groups *as* organisms". Like all major transitions in evolution, it was a rare event with major consequences. All else is commentary.

Except that things are never that simple. That's because suppression of disruptive forms of within-group selection is almost never perfect. This is true at all levels of the biological hierarchy: Cancer is one unfortunate example within individuals, genes that bias transmission

⁷ Samir Okasha makes this point too, describing the different approaches as akin to Lagrangian and Hamiltonian formulations of classical mechanics, or wave and matrix formulations of quantum mechanics. Like in physics, different frameworks may be more or less suited for answering different problems. See S. Okasha, "Altruism researchers must cooperate", *Nature*, 467, 2010, pp. 653–655.

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through our gametes another. And at the level of the group, the tug-of-war between levels of selection invariably produces mixed populations, making life more interesting. Wilson provides the example of water striders, carnivorous insects that glide over the surface of water like stealthy rowing boats, pouncing on their unsuspecting pray. Male water striders, it turns out, come in two modes: those that mate with females only when approached, and those that pounce on them as fiercely as on their prey. While the latter outcompete their more gentlemanly associates, garnering all the mates, females in groups comprised of “rapists” eat less and therefore lay fewer eggs. Since between-group selection never fully trumps within-group selection, the overall result is a population filled with Carry Grants alongside Ted Bundys.

What about us? Humans became functionally organized through childcare, food acquisition, predator defense, and trade and warfare with other groups.⁸ Each of these required mutual aid and the suppression of the interest of individuals, which meant the creation of brains that know both how to empathize and make moral judgments, including when to punish someone who steps out of line. A likely scenario is that as a neural reward and punishment system became linked to internalizing social practices in human evolution, it created a feedback loop bonding culture to biology.⁹ We are all the result of thousands of generations of gene-culture evolution.

But remember: the design principles for group organization are scale free: What’s true of the striders is just as true of man. And so whether we live in the Kalahari or Kyrgyzstan, Manhattan or Macau, we find ourselves in mixed populations of gentleman and cads, warmongers and tree-huggers, altruists and egoists, skeptics and believers. That’s why our history is such a spectacular, beguiling drama. Imagine a human race devoid of any kind of intrigue, no Shakespeare or House of Cards. The weary heart shudders.

Why the human condition expresses such a tapestry has to do with how it is we got here. As agriculture made us sedentary, and our numbers grew, so too did the importance of language and culture. Gradually, human populations spread out of Africa across the globe, inventing different ways of life. Unique geographic environments pro-

⁸ Christopher Bohm, *Moral Origins: The Evolution of Virtue, Altruism, and Shame* (New York: Basic Books, 2012).

⁹ Patricia Churchland does a commendable job explaining this dynamic in *Brain-trust: What Neuroscience Tells Us About Morality* (Princeton: Princeton University Press, 2011). For a critique of the broader claim of her book, see Oren Harman, “Is the Naturalistic Fallacy Dead (and If So, Ought it Be?),” *Journal of the History of Biology*, 45, 2012, pp. 557–572.

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duced unique solutions to the problems of sharing resources, dividing labor, and living together peacefully. Challenge by challenge, solution by solution, the human race invented its plurality.

And so despite the allure of peering into brains to figure out the biochemistry, anatomy, and neurogenetics of our behavior,¹⁰ to understand how different solutions came about we need to study the construction of entire social environments.¹¹ What motivates individuals, much less the biology of individual brains, is not enough. Wilson makes this point nicely. Margaret Thatcher may have believed that “There is no such thing as society”, and an entire social philosophy – “methodological individualism” – may have taken over economics and sociology for a time. In neuroscience, a certain cast of mind may nowadays interpret different religions’ advocacy of the Golden Rule as evidence for a common underlying biology.¹² But the truth is that ethics is a collective property, not a denizen of any particular mind. “Art is myself, science is ourselves”, Claude Bernard quoted Hugo waxing on Shakespeare – and so, it would seem, is morality.

III

Where does that leave us? The world, after all, is complicated, full of violence and warfare, fighting and strife. At times, our “superorganism” seems on the verge of disintegrating. In *The Paradox of Generosity*, sociologist Christian Smith and his student Hilary Davidson argue alongside Jesus and Muhammed and Ecclesiastes that through giving we receive. “Help your brother’s boat across”, they quote a Hindu proverb, “and your own will reach the shore”. What’s new, they claim, is that science now corroborates the sages: according to five measures of wellbeing tabulated in a nationwide study, the Science of Generosity Initiative, misers are indeed miserable and the generous happier. As long as practices of giving, that is, are part and parcel of their lifestyle; onetime donations of blood and even organs fail to spark the feel good magic. Never mind the problem of reverse causation. What the authors find, to their astonishment, is that despite the obvious perk, Americans

¹⁰ Michiu Kaku, *The Future of the Mind: The Scientific Quest to Understand, Enhance, and Empower the Mind* (New York: Doubleday, 2014).

¹¹ Jonathan Haidt argues along these lines in *The Righteous Mind: Why Good People Are Divided By Politics and Religion* (New York: Pantheon, 2012).

¹² See, most recently, Donald W. Pfaff, *The Altruistic Brain: How We Get to be Naturally Good* (Oxford: Oxford University Press, 2015).

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are lousy altruists. Only 2.7% tithe, 41% donate under 2% of their earnings, and 45% give nothing at all. Less than a quarter volunteer, and 42% have never taken care of some one else's children. Religions promise an afterlife, but according to these University of Notre Dame authors, science can do better: "If Americans want to be happier, healthier people who live with greater purpose, suffer less depression, and enjoy more personal growth [they should] learn to be more generous".¹³

Hold on a minute. Isn't sacrifice the point of altruism? Maybe it is, and maybe it isn't, I'm not really sure.¹⁴ Wilson seems to feel the same. Despite earlier attempts to pick apart pure altruists from egoists,¹⁵ he has graduated to a less idealistic approach. Ultimately, interrogating a trait for its function, mechanism, development, and phylogeny carves closer to the bone than any kind of value-laden judgment. A philosophical tradition harking back to the story of Adam and Eve attempts to distinguish between pure selflessness and self-interest in the service of the ethical project.¹⁶ When it comes to altruism, Wilson argues, Mayr's condensation of Tinbergen's program does a better job of clarifying the conundrum.¹⁷

To explain why, Wilson conjures up "Tom", "Dick" and "Harry", and invites us to imagine a common fishery. Despite the fact that overfishing will doubtless lead every one to starve, a relative fitness maximizer like Tom won't give a damn. Unless some kind of communal law and punishment is enforced, he'll fish to outfish every one. An absolute fitness maximizer like Dick just wants to gorge on as many fish as possible regardless of what others eat. He may not mind cooperating if it happens to allow him to satisfy his appetite, but watch out: if Dick can increase his absolute catch at the expense of the others, he's sure to take the bait. Harry, finally, is the noble type. All he wants is for the overall catch to grow; if this means giving up some of his share for the group, he's happy to make the sacrifice. Notice the Darwinian upshot: Tom is the winner in an all out competition without laws to curb

¹³ Christian Smith and Hilary Davidson, *The Paradox of Generosity: Giving We Receive, Grasping We Lose* (Oxford: Oxford University Press, 2014), p. 112.

¹⁴ Oren Harman, *The Price of Altruism: George Price and the Search for the Origins of Kindness* (New York: Norton, 2010).

¹⁵ Sober and Wilson, *Unto Others*, op. cit.

¹⁶ See Philip Kitcher, *The Ethical Project* (Cambridge, MA.: Harvard University Press, 2011).

¹⁷ Niko Tinbergen, "On Aims and Methods of Ethology", *Zeitschrift Für Tierpsychologie*, 20, 1963, pp. 410–433; Ernst Mayr, "Cause and Effect in Biology", *Science*, 134, 1963, pp. 1501–1506.

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voraciousness, and if there are laws in place but lax, Dick will eat more fish than Harry. Still, despite harboring very different intentions, Dick and Harry may act in the very same manner if a competing fishery down the river suddenly materializes. We call one a psychological egoist and the other a psychological altruist, but from the point of view of evolution they're indistinguishable.

And so cooperation and altruism may not always simply be born out of fuzzy goodwill on the part of the entire populace. The many-to-one relationship between intention and action in humans can breed mixed populations, sprinkling spice into life and a motivation for art. Mayr helps us see that the proximate intention needs to be studied together with ultimate goals if any sense is to be made of society. Different psychological mechanisms can service the same end, after all, and the right mix of "Tom", "Dick", and "Harry" may under certain circumstances, surprisingly, be a better way to suppress within-group competition than Harry's all the way down.

How does this relate to real world problems? In 1968 the ecologist Garrett Hardin published "The Tragedy of the Commons", warning against the vulnerability of communal societies before ubiquitous self-interest.¹⁸ With the world population exploding, and the Earth's resources depleting, the future of humanity seemed bleak. Except that what seemed to some an intractable problem, presented to others a solvable puzzle. The late economist Elinor Ostrom won a Nobel Prize in economics in 2009 for showing that there are universal design principles that help different cultures find solutions to managing common pool resources like pastures and forests, fisheries and irrigation systems. Strong group identity, an agreed upon system for rewarding members for their respective contributions, collective-choice arrangements, monitoring, graduated sanctions, conflict resolution mechanisms, and the authority to run their own affairs, all figure, she showed, in the subversion of Hardin's tragedy. They are as crucial to groups as organs are to individuals. Unfortunately, so too often is the existence of an enemy, a reviled "other", required to sustain inter-group togetherness – a legacy, it would seem, of our clannish beginnings. This is a hurdle we have yet to learn to overcome, and according to some, our greatest challenge.¹⁹

¹⁸ Garrett Hardin, "The Tragedy of the Commons", *Science*, 162, 1968, pp. 1243–1248.

¹⁹ Joshua Green, *Moral Tribes: Emotion, Reason, and the Gap Between Us and Them* (New York: Penguin, 2014).

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And so societies that seek to solve communal challenges effectively need to be tough as well as generous. Good to know. But what emerges most clearly from such evolutionary considerations is that while the road to Rome isn't paved by good intentions alone, neither is it the single route. There are not only many individual psychologies that can lead to communal, even altruistic, action; there are also many communal ways to foster identity, fortify authority and fabricate "others", each of which draw on different social conventions and norms. What the proximate/ultimate divide teaches us is that the assumption that the same psychological and cultural mechanisms will evolve to solve similar solutions in different times and places is almost assuredly false. After all, what's true for our biological evolution is doubly true for our cultural one: Just as the domestication of cattle and goats selected unique mutations for lactose digestion in different groups of humans in different locales, so too have the challenges of collective life produced different social arrangements. If nothing else, this is a powerful tonic against universalists. If we are brave, it could be much more.

IV

Which leads us to our last consideration. Wilson is the president of the Evolution Institute, the first think tank to formulate public policy from a modern evolutionary perspective, and he has turned his hometown of Binghamton into a city-wide experiment.²⁰ Like a conservation biologist trying to figure out how to help plants grow, he and his team are using evolutionary logic, Tinbergen's directives, Mayr's distinction, and Ostrom's principles, to build "ecological niches" that nurture cooperation and trust. What they are beginning to learn is the precise opposite of the Notre Dame conclusion: those who receive, give. It seems a better verdict.

Their task won't be easy. Wilson charts it as a kind of sailing between the Scylla of religion and the Charybdis of Objectivism. Religions demand faith in a god, whereas Ayn Rand professed faith in oneself to the extreme. Seemingly at ends with each other, the allure of both, Wilson argues, stems precisely from the simplified model of behavior they profess.

Take religion. There is a growing consensus that while our innate tendency to attribute agency to events in the world is probably a

²⁰ David Sloan Wilson, *The Neighborhood Project: Using Evolution to Improve My City, One Block at a Time* (New York: Little, Brown and Company, 2011).

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byproduct of genetic evolution, the particular conceptions of gods as agents we've invented are rather an adaptation at the cultural level whose essence is to provide social glue. Religions, therefore, fit classically into gene-culture models of evolutions, but they also make a lot of sense when viewed from the perspective of multi-level selection. After all, those religions that have been successful are the ones that were particularly adept at inventing mechanisms that suppress within-group self-serving behavior. What may be surprising to some is that altruism has not been one of them. That is, at least when altruism is defined by intent rather than action.

Jacob Neusner and Bruce Chilton are two esteemed scholars of religion who were funded by the John Templeton Foundation to assess the role of altruism in world religions.²¹ Defining altruism as “intentional action ultimately for the welfare of others that entails at least the possibility of either no benefit or a loss to the actor”, they found the conception entirely foreign to the worldviews of all major religions. Yes, religions unquestionably exhort their followers to act altruistically towards one another (within the group), but surprisingly, and quite definitively, they do so without pleading to any altruistic feeling. What kind of action is the kind performed for a reward in the afterlife, or to escape the censure of a wrathful god? Certainly not an altruistic one. Wilson used an analysis of Hutterite religious texts to visualize the point. Tabulating each phrase that conveyed information about the effects of actions on the welfare of self and others, he came up with the following two-by-two table:

²¹ Jacob Neusner and Bruce Chilton, eds., *Altruism in World Religions* (Washington, DC: Georgetown University Press, 2005).

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EFFECTS ON SELF

		-	+
EFFECTS ON SELF	+		Brotherliness Community Faithfulness Love Mutual Help Obedience Sacrifice Surrender
	-	Arrogance Ego Greed Individuality Pride Selfishness Self-interest Self-will	

The contemporary definition of altruism we all recognize and the one used by the scholars would refer to the top left quadrant (negative for self, positive for others), but this and the lower right quadrant (positive for self, negative for others) are both empty. What this means is that Hutterite texts, as an example of fundamentalist religious thought, only recognize actions that either benefit the self and community, or detract from them – no such thing as an action good for self but bad for the collective, or bad for self and good for the collective, exists. It's win-win, or lose-lose. How convenient, Wilson argues, this complete identification of the individual with the group. And how striking, when compared to an analysis of Ayn Rand's secularist philosophy:

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EFFECTS ON SELF

		-	+
EFFECTS ON SELF	+		Egoism Honesty Independence Logic Pride Rational self-interest Self-esteem Selfishness
	-	Altruism Collective Faith Self-denial Unselfishness Blind desires Hedonism Irrational values	

Fundamentalism of any kind, in other words, is a worldview that can't be bothered with complexities. The simpler things are kept the better, herein lays its success.²² As Wilson explains, such worldviews are always wrong as descriptions of reality, since actions in the real world often benefit individuals at the expense of groups and vice versa. But such worldviews aren't selected on the basis of their factuality. They're selected for congealing the group.

There are many believers who would take issue with Wilson's account. While fundamentalism is often a curse, to a great degree the ability of religions to eschew their original fundamentalisms through expansive, lithe, culturally sensitive, modern-day exegesis has been responsible for their success in keeping millions in the fold. The very term for law in Judaism, for example – *Halacha* – comes from the Hebrew “to walk”, as in, to walk with the times. Wilson wouldn't disagree; he is smart enough not to fall into the crass essentialisms of a Dawkins or a

²² Neusner and Chilton's edited book includes chapters by world experts on Judaism, Christianity, Islam, classical Buddhism, Hinduism, and Chinese religions, all of whom, alongside Graeco-Roman philosophy, lack altruism as defined by them. One wonders how their conclusions struck their funders.

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Sam Harris and knows that many liberals are also believers. He respects the way religions succeed in motivating altruistic action, just like, say, a beehive. Still, he is a secularist. And a self-styled practical theoretician, too. What can one who wishes to make the world a better place but neither believes in religion or Objectivism do?

One solution, short of full-blown moral Objectivism, has been to place faith in markets and the benevolence of an Invisible Hand. If societies can run themselves on the basis of greed rather than goodwill, well, “so much the worse for goodwill”. But the neoliberal followers of Adam Smith, many commentators have seen, neglected the nuance of their hero who wrote: “Man possesses the capacities which interest him in the fortune of others, and render their happiness necessary to him, though he derives nothing from it, except the pleasure of seeing it”.²³ Instead, they produced a caricature that from the point of view of evolution – and every point of view, really – was nothing but a fiction. It’s *Homo sapiens*, not *Homo ecomonicus*, Wilson argues, that needs to be the subject of our policies if ever they wish to do us any good. And the true Invisible Hand is just a higher-level selection.

And so putting his theory to the test, Wilson created the Evolution Institute. Based on the assumption that there are many ways to skin a cat, he and his colleagues are exploring different mechanisms to suppress disruptive within-group selection in real life cities and institutions. They are aware that such suppression is always incomplete. But they also believe that higher-level selection causes lower-level entities to become organ-like, and that the design principles for group organization are scale free. Just like the single-celled organisms that came together to form multicellular creatures, and the bees that created superorganisms, the groups of today might very well be the organisms of tomorrow.

One wonders about the facile move from description to prescription, not least due to the claim that the logic of multi-level evolution is a cure-all that earlier do-gooders simply lacked. Today we call to task nineteenth century liberals for having confused the arrow of causation: they believed that the market operates like Nature because they’d already decided that Nature operates like the market. The same is true for Wilson: Multi-level selection may be a wonderful way to describe evolution, but it is getting it backward to claim that due to its working out of the dynamics of selfish cheating versus communal sacrifice it somehow represents a novel panacea for all social ills. After all, the corro-

²³ Adam Smith, *The Theory of Moral Sentiments*, (1759; reprint, New York: Modern Library, 1937), p. 9.

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siveness of personal gain at the expense of group flourishing doesn't need an evolutionary theorist to tell it what's what. Such hard truths were known to mankind well before Ninveh and the parables of the Bible.

Ultimately the problem with a broad application of multi-level logic to human affairs is just that – its rough generality. For it would seem that there can be no behavior that can't be explained by recourse to its regimen; none is offered, in any case, that might provide a test to the theory, or a refutation. When it is determined *apriori* that genetic selection acts at any and all of the levels of the biological hierarchy and cultural selection at any and all of the cultural one, it is not always easy to see how the recommendations of the Evolution Institute might provide added value. Very smart, and dedicated, activists and social workers and teachers and politicians shouldn't be faulted for wondering how evolutionary theory will teach them anything new. It remains to Wilson to prove them wrong.

Neither the reforms of Cleisthenes nor the Truth and Reconciliation Commission are rendered obvious by any particular environment. Nor, for that matter, are the Nuremberg Laws. Still, Wilson remains hopeful. If evolution can help clarify the logic of decency and kindness, well, it might just provide useful directives. God knows we've tried many paths. Perhaps Darwin's, when all is said and done, will be our guide.